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PTO/SB/01 (10_00)

Approved for use through 10/31/2002. OMB 0651-0035

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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**DECLARATION FOR UTILITY OR
DESIGN
PATENT APPLICATION
(37 CFR 1.63)**



Declaration
Submitted
with Initial
Filing

OR



Declaration
Submitted after initial
Filing (surcharge
(37 CFR 1.16(e))
required)

Attorney Docket Number

BP3018

First Named Inventor

Ba-Zhong Shen, Ph.D.

COMPLETE IF KNOWN

Application Number

Filing Date

Group Art Unit

Examiner Name

As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**16 QAM AND 16 APSK TCM (TURBO TRELLIS CODED MODULATION) WITH MINIMUM
BANDWIDTH OF 3 BIT/S/HZ USING A RATE 2/4 CONSTITUENT ENCODER**

the specification of which

(Title of the Invention)



is attached hereto

OR



was filed on (MM/DD/YYYY)

as United States Application Number or PCT International

Application Number

and was amended on (MM/DD/YYYY)

(if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checkign the box, any foreign application for patent or inventor's certificate, or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Applications Numbers(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119 (e), 120, or 365 (c) of any U.S. or PCT application(s) listed below.

Application Numbers(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.
60/384,698	5/31/2002	
10/264,486	10/4/2002	
as application states	6/20/2003	

SEND TO: Assistant Commissioner for Patents, Washington, DC 20231

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— +


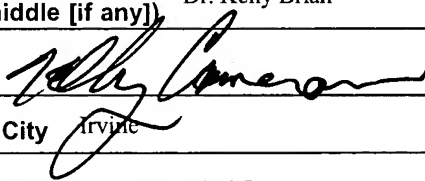
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DECLARATION - Utility or Design Patent Application

Direct all correspondence to:		<input checked="" type="checkbox"/> Customer Number or Bar Code Label	34,399		OR	<input checked="" type="checkbox"/> Correspondence address below
Name Shayne X. Short, Ph.D.						
Address P.O. Box 160727						
Address						
City Austin				State TX	ZIP 78716-0727	
Country USA			Telephone (512) 825-1145		FAX (512) 394-0054	
<p>I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.c. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.</p>						
NAME OF SOLE OR FIRST INVENTOR:			<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any]) Ba-Zhong			Family Name or Surname Shen, Ph.D.			
Inventor's Signature 					Date 7/14/03	
Residence: City Irvine			State CA	Country USA	Citizenship China	
Mailing Address 22 Wyoming						
Mailing Address						
City Irvine			State CA	ZIP 92606	Country USA	
NAME OF SECOND INVENTOR:			<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any]) Dr. Kelly Brian			Family Name or Surname Cameron			
Inventor's Signature 					Date 7/14/03	
Residence: City Irvine			State CA	Country USA	Citizenship USA	
Mailing Address 4171 Blackfin						
Mailing Address						
City Irvine			State CA	ZIP 92620	Country USA	
<input type="checkbox"/> Additional inventors are being named on the _____ supplemental Additional Inventor(s) sheets(s) PTO/SB/02A attached hereto.						

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NAME OF THIRD INVENTOR:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle [if any]) Hau Thien		Family Name or Surname Tran	
Inventor's Signature <i>Hau T. Tran</i>		Date 7/14/03	
Residence: City Irvine	State CA	Country USA	Citizenship USA
Mailing Address 19 Purple Sage			
Mailing Address			
City Irvine	State CA	ZIP 92612	Country USA
NAME OF FOURTH INVENTOR:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle [if any])		Family Name or Surname	
Inventor's Signature		Date	
Residence: City	State	Country	Citizenship
Mailing Address			
Mailing Address			
City	State	ZIP	Country USA
NAME OF FIFTH INVENTOR:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle [if any])		Family Name or Surname	
Inventor's Signature		Date	
Residence: City	State	Country	Citizenship
Mailing Address			
Mailing Address			
City	State	ZIP	Country

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POWER OF ATTORNEY OR AUTHORIZATION OF AGENT

Application Number

Filing Date

First Named Inventor

Ba-Zhong Shen, Ph.D.

Group Art Unit

Examiner Name

Attorney Docket Number

BP3018

I hereby appoint:



Practitioners at Customer Number

34,399

OR



Practitioner(s) named below:

Place Customer
Number Bar Code
Label Here

Name	Registration Number
Shayne X. Short, Ph.D.	45,105
Bruce E. Garlick	36,520
James A. Harrison	40,401
Timothy W. Markison	33,534

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please change the correspondence address for the above-identified application to:



The above-mentioned Customer Number.

OR



Firm or
Individual Name

Shayne X. Short, Ph.D.

Address

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78716-0727

Country

USA

Telephone

(512) 825-1145

Fax

(512) 394-0054

I am the:



Applicant/Inventor.



Assignee of record of the entire interest. See 37 CFR 3.71

Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

SIGNATURE of Applicant or Assignee of Record

Name

Dee Henderson

title: Manager, IP Portfolio

Signature

[Signature]

Date

8-7-2003

NOTE:

Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.



*Total of 1 forms are submitted.

SEND TO: Assistant Commissioner for Patents,
Washington, DC 20231

Certificate Under 37 CFR 3.73(b)

Applicants: Ba-Zhong Shen, Ph.D. Dr. Kelly Brian Cameron Hau Thien Tran

Entitled: 16 QAM AND 16 APSK TCM (TURBO TRELLIS CODED MODULATION) WITH MINIMUM BANDWIDTH OF 3 BIT/S/HZ USING A RATE 2/4 CONSTITUENT ENCODER

Application No.

Filing Date:

Broadcom Corporation

(Name of Assignee)

a, California Corporation

(Type of Assignee)

states that it is :

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of an undivided part interest

in the patent application/patent identified above by virtue of either :

- A. ☒ An Assignment for the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

- B. ☐ A chain of title for the inventor(s) of the patent application/patent identified above to the current assignee as shown below:

1. From _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
2. From _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
3. From _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.
Copies of assignments or other documents in the chain of title are attached.

☒ [NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302-302.8]

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

Date: 8-7-2003

Name: Dee Henderson
Manager, Intellectual Property Portfolio

Title: _____

Signature: 